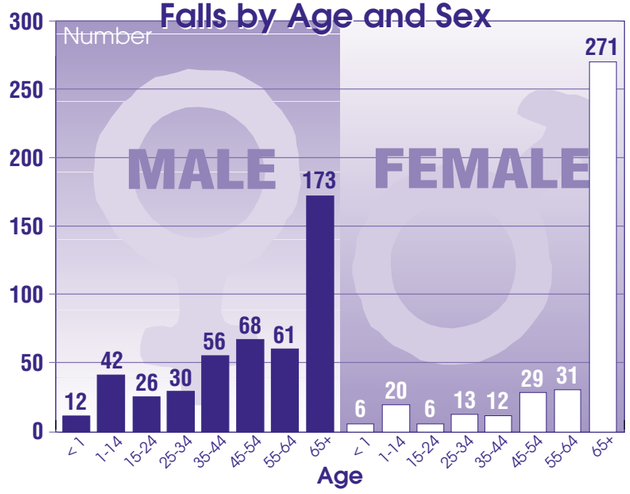
Females are less likely than males to suffer a fall related head injury for all age groups through age 64. Of the total traumatic brain injuries due to falls, 51.9 percent were from the age group 65 years old and older. Of the 388 females who suffered a head injury due to a fall, 69.8 percent were 65 years old or older, compared to 37.0 percent of the 468 males.

Approximately 3.5 percent of the total falls were work related.

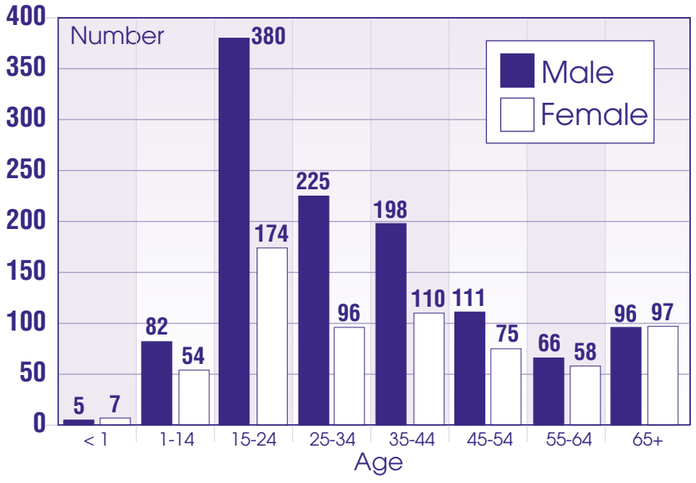
Of the 1,163 males who were involved in a motor vehicle accident, 32.7 percent were ages 15 to 24 years compared to 19.3 percent in ages 25 to 34 years. These two age groups accounted for over half of the total motor vehicle injuries. For both males and females, there were more injuries (30.2 percent) in the 15 to 24 year age group than any other group.

Approximately 1 percent of the total motor vehicle accidents was work related. Of the total head injuries from motor vehicle traffic accidents, 8.1 percent resulted in a severe brain injury; 27.2 percent was classified as moderate; 45.1 percent was classified as mild; and the severity for 19.7 percent was undetermined.

Falls by Age and Sex



Motor Vehicle Crashes by Age and Sex



When all cases were included, 31.1 percent of the individuals with severe brain injuries were hospitalized more than seven days, compared to 35.1 percent of the individuals with injuries considered to be moderate, and 15.9 percent for those with mild injuries. For cases where severity was undetermined, 18.8 percent were hospitalized more than seven days.

When individuals who died are excluded from the analysis, 86.7 percent of people with severe brain injuries were hospitalized more than seven days, while the percent of individuals with lesser injuries showed little change.

Approximately 51.2 percent of the cases with hospital stays of more than 7 days were considered to have moderate brain injuries.

The length of stay could be affected by other injuries that occurred during the accident. The severity index by itself should not be used as a predictor or indicator of length of stay.

Severity of Injury by Length of Stay

			Severe		Moderate		Mild		Undetermined	
Length of Stay	Total	Died	Total	Died	Total	Died	Total	Died	Total	Died
Less than 24 hrs.	126	106	66	65	34	15	2	2	24	24
1 Day	718	73	50	48	123	15	388	6	157	4
2 Days	559	33	23	21	162	8	255	1	119	3
3 Days	389	12	8	8	137	3	168	1	76	0
4 Days	302	18	13	13	110	3	125	1	54	1
5 Days	217	17	11	8	93	6	83	3	30	0
6 Days	152	8	6	5	67	2	51	0	28	1
7 Days	157	8	5	3	76	4	50	1	26	0
8 to 14 Days	462	38	23	8	224	22	153	8	72	0
15 to 21 Days	172	9	21	2	89	6	40	1	22	1
22 to 28 Days	87	3	13	0	49	2	10	0	15	1
29 Days or more	126	5	25	0	72	4	19	0	10	0
TOTAL	3467	330	264	181	1236	90	1334	24	633	35

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Tennessee Traumatic Brain Injury

2000

July - December

A traumatic brain injury is defined as an acquired injury to the brain caused by an external physical force that may result in total or partial disability or impairment.

Tennessee Department of Health
Bureau of Policy Planning and Assessment
Health Statistics and Research
July - December, 2000

Introduction

The enabling legislation establishing the traumatic brain injury registry was signed into law in May, 1993. As written, the initial legislation prohibited health care providers from reporting case information without written consent of the patient. An amendment was passed in May, 1996 resolving this issue. Data collection officially began with patients discharged during 1996. The hospitals report information on inpatients, with specific ICD-9 CM diagnosis codes, whose admission and discharge dates are different (where length of stay was 24 hours or more) and for those individuals who died. Patients seen in emergency rooms who were sent home the same day or length of stay was less than 24 hours are not included in the registry.

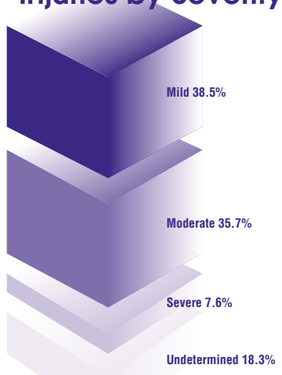
A traumatic brain injury is defined as an acquired injury to the brain caused by an external physical force that may result in total or partial disability or impairment.

Based on the ICD-9-CM diagnosis codes, 38.5 percent of all patients experienced a "mild" injury. The injuries considered "moderate" made up 35.7 percent while 7.6 percent were considered "severe". Six hundred thirty-three (633) cases, or 18.3 percent had an insufficient clinical description and the severity for these cases was undetermined.

The severity index is based on the clinical diagnosis of the injury.

Approximately 77 percent of the patients discharged (excluding the patients that died) were discharged for home care requiring non-skilled or some degree of skilled assistance. This indicates a tremendous burden on the families and communities of the brain injured survivors.

Injuries by Severity



Approximately 69 percent of the patients with a severe traumatic brain injury died. This category represents 54.8 percent of the total patients that died.

For patients with a moderate brain injury (excluding deaths) 68.2 percent were discharged for home care requiring non-skilled or some degree of skilled assistance. Over 14 percent were discharged to residential facilities with or without skilled nursing services and 12.3 percent to an inpatient rehabilitation facility. Approximately 2.7 percent of the patients with a moderate brain injury (excluding deaths) were transferred to another acute care hospital.

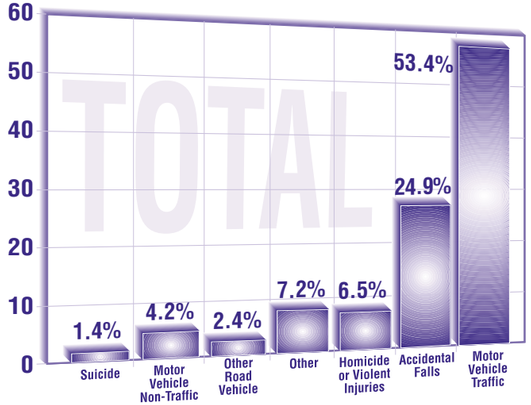
Excluding deaths, 86.2 percent of the patients with a mild brain injury were discharged to home care requiring non-skilled or some degree of skilled assistance.

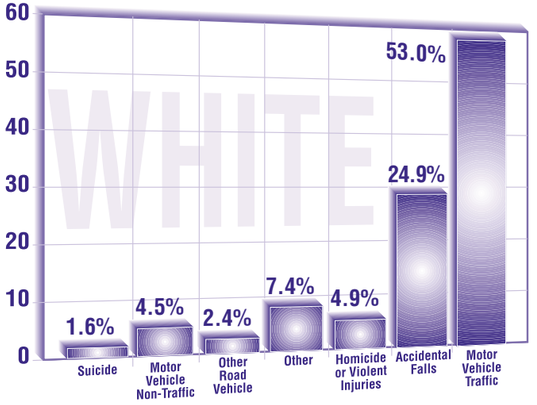
An external cause of injury permits the classification of environmental events, circumstances, and the conditions as the cause of injury. An external cause of injury was reported for 99.0% (3,433) of the 3,467 persons treated in Tennessee. The data presented by race represents 2,953 white and 341 black cases.

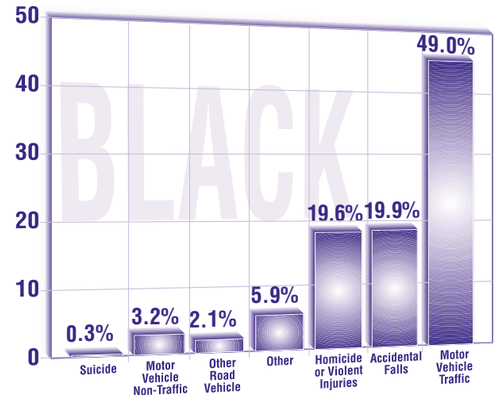
The leading cause of traumatic brain injuries, 53.4 percent (includes only cases with external cause of injury reported) was motor vehicle traffic accidents. Accidental falls accounted for 24.9 percent, other accidents for 7.2 percent, and homicide or violent deaths accounted for 6.5 percent of the total injuries.

For whites, the leading cause was motor vehicle traffic accidents with 53.0 percent. The second leading cause of injury was accidental falls with 26.2 percent. The third leading cause was other accidents with 7.4 percent of total injuries.

The leading cause of head injury for blacks (49.0 percent) was motor vehicle traffic accidents. Falls was the second leading cause of injury with 19.9 percent. The third leading cause of injury was homicide or violent injuries with 19.6 percent.







Hospital Discharge Status by Severity of Injury

Discharge Status	Total	Severe	Moderate	Mild	Undetermined
Transferred to acute care hospital	49	3	31	9	6
Home - self care	2125	10	657	997	461
Home - requiring non-skilled assistance	185	1	76	97	11
Home health services or out patient rehab	116	2	49	35	30
Residential facility w/o skilled nursing	54	3	28	15	8
Residential facility with skilled nursing	263	26	138	61	38
Inpatient rehab facility	287	35	141	76	35
Patient died	330	181	90	24	35
Other	58	3	26	20	9
Total	3467	264	1236	1334	633

Injuries by Age and Sex

For all age groups except 65 and older, males are more likely to suffer a head injury than females. This is primarily due to traffic accidents. At age 65 and older, females experience more injuries due to falls. Further analysis of the data revealed that 22.4 percent of the patients less than one year of age suffered a brain injury due to homicide or an injury purposely inflicted by other persons.